UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

SUBJECT:	CLEAN AIR ACT INSPECTION REPORT Evonik, Janesville, Wisconsin
FROM:	Victoria Nelson, Environmental Engineer AECAB (MI/WI)
THRU:	Sarah Marshall, Section Supervisor AECAB (MI/WI)
TO:	File

BASIC INFORMATION

Facility Name: Evonik Corp. (Evonik)

Facility Location: 900 S Palm Street, Janesville, Wisconsin

Date of Inspection: November 7, 2022

EPA Inspectors:
1. Victoria Nelson, Environmental Engineer
2. Dakota Prentice, Environmental Engineer

Other Attendees:
1. David Ansloos, Evonik, Continuous Improvement Manager
2. Hugo Barbosa, Evonik, Production Manager
3. Sondra Klipp, Evonik, Principal Environmental Specialist
4. Jeff LaBrozzi, Evonik, Site Manager
5. Andy Stevenson, Evonik, EHSQ Specialist

Contact Email Address: Sondra Klipp - sondra.klipp@evonik.com

Purpose of Inspection: To evaluate compliance with the Clean Air Act and the facility's Title V Permit

Facility Type: Organic Chemical Manufacturing

Regulations Central to Inspection: The facility's Title V Operation Permit; Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry, 40 C.F.R. Part 60, Subpart VV

Arrival Time: 11:15 AM Central Time
Departure Time: 3:50 PM Central Time

Inspection Type:
☒ Unannounced Inspection
☐ Announced Inspection

OPENING CONFERENCE

☒ Presented Credentials
☒ Stated authority and purpose of inspection
☒ Small Business Resource Information Sheet not provided. Reason: Not a small business.
☒ Provided CBI warning to facility

The following information was obtained verbally from the attendees unless otherwise noted.

Process Description:
Evonik manufactures surfactants from raw materials, including, but not limited to, animal- and vegetable-derived fats and oils, propylene oxide, ethylene oxide, dimethyl sulfate, and methylene chloride. Raw materials are brought in by truck and rail and held in storage tanks. Evonik combines raw materials to make various products in reactor vessels under heat and pressure. Operations at the facility are divided into two main areas, Areas 1 and 2. Area 1 houses Reactors 2 - 7 and a scrubber. Ethoxylation and propoxylation reactions are conducted in Reactors 2, 4, 5, 6, and 7 and include the reaction of ethylene oxide or propylene oxide with fatty amines. Emissions from these reactors are routed to a steam vacuum stripper and a scrubber, T-91, if making ethoxylates. The scrubbant is phosphoric acid.

Area 2 contains Reactors 8 and 10 and Tank 27. Reactor 8 is used to produce dimethyl sulfate quaternary ammonium compounds. Ethylene oxide and propylene oxide are not used in Area 2. Additionally, methyl chloride is recovered with a series of cooler and compressor equipment and a cryogenic system. Recovered methyl chloride is stored in at least four storage vessels.

Evonik's processes generate wastewater that is treated on-site. Generated wastewater includes reaction by-products, wash water, and process condensate. Process sewers transfer wastewater to on-site wastewater treatment prior to discharge. On-site wastewater treatment includes pH adjustment and phase separation. Methylene chloride is stripped from the wastewater. Evonik does not treat wastewater for organic compounds.

Staff Interview: Evonik operates the facility 24 hours a day for 7 days a week and has 72 employees on-site. Reactor 3 is no longer used. Tank 27 is used as a reactor vessel for a reaction

that does not include methylene chloride, or for storage. Evonik does not estimate VOC emissions from this unit.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:
EPA toured Areas 1 and 2 and on-site wastewater treatment operations.

Photos and/or Videos: were taken during the inspection.
EPA took photos using a digital camera. *See* Appendix A: Digital Image Log.

Field Measurements: were taken during this inspection.
EPA collected measurements using a flame ionization detector (FID). *See* Appendix B: Field Measurement Data.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- Process flow diagram
- Most recent stack test reports for air pollution control equipment
- 2020, 2021 Air emissions calculations with wastewater emissions estimates
- Wastewater sampling results for organic compounds, including ethylene oxide
- Additional information and chemical contents for the tanks and switch bank lines found with FID readings during the inspection

Compliance Assistance: EPA recommended repair of equipment found with emissions during the inspection.

DIGITAL SIGNATURES

Report Author: VICTORIA NELSON Digitally signed by VICTORIA NELSON Date: 2023.01.05 15:26:05 -06'00'

Section Supervisor: SARAH MARSHALL Digitally signed by SARAH MARSHALL Date: 2023.01.05 17:00:49 -06'00'

APPENDICES AND ATTACHMENTS

1. Confidential Business Information Attachment
2. Appendix A: Digital Image Log
3. Appendix B: Field Measurement Data

Contains Items Claimed as CBI – Non-Releasable
Facility Name: Evonik Corp.
Facility Location: 900 S Palm Street, Janesville, Wisconsin
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CONFIDENTIAL BUSINESS INFORMATION ATTACHMENT

Facility Name: Evonik Corp. (Evonik)
Facility Location: 900 S Palm Street, Janesville, Wisconsin
Date of Inspection: November 7, 2022

Evonik claimed the 8 photos taken during the inspection as Confidential Business Information.

Facility Name: Evonik Corp
Facility Location: 900 S Palm Street, Janesville, Wisconsin
Date of Inspection: November 7, 2022

APPENDIX A: DIGITAL IMAGE LOG

1. **Inspector Name:** Dakota Prentice	2. **Archival Record Location:** R5 Electronic Records Center

Image Number	File Name	Date and Time (Central Time*)	Description of Image
1	IMG_0266.JPG	11/7/2022 2:04 PM	Propylene oxide storage tanks (left) and ethylene oxide storage tanks (right).
2	IMG_0267.JPG	11/7/2022 2:29 PM	Tank 41
3	IMG_0268.JPG	11/7/2022 2:34 PM	Tank 46
4	IMG_0269.JPG	11/7/2022 2:38 PM	Tank 21
5	IMG_0270.JPG	11/7/2022 2:56 PM	Pit for Switchbank B
6	IMG_0271.JPG	11/7/2022 3:05 PM	Tank 19 Conservation Vent
7	IMG_0272.JPG	11/7/2022 3:29 PM	"Octopus" connections at Switchbank H
8	IMG_0273.JPG	11/7/2022 3:31 PM	Drain near Tank T-211
9	IMG_0274.JPG	11/7/2022 3:33 PM	Drain near Switchbank G

*Note: Timestamps for the photos were originally recorded an hour ahead of local time. Local time is given in the table above.
Note: Photos claimed as Confidential Business Information.

APPENDIX B: FIELD MEASUREMENT DATA

FID Measurement Data

Inspector Name: V. Nelson

Location	**FID Reading (ppm)**
Tank 41 vent for breathing losses	10
Tank 41 conservation vent	30
Tank 46 manway	20
Tank 21 vent	12
Switchbank B: Line 36 to Reactor 6	1300
Switchbank B: Line 21 to Filter Press 1	540
Above collected material in pit below Switchbank B	150
Switchbank B: Line 64	330
Tank 19 Conservation Vent	90
Switchbank G Scupper	16
Above collected material in pit below Switchbank G	25
Switchbank G: Line 224 to S/B-E	800
From P-112	900
Switchbank F Scupper	28
223 Pump	30
Drain near Tank T-211 (marked with purple paint)	25
Drain near Switchbank G (marked with purple paint)	27

Calibration and Instrument Information

EPA used one ThermoFisher Toxic Vapor Analyzer 2020 (TVA2020). The EPA TVA2020 response times are in the 4 to 5 second range. Victoria Nelson used TVA2020 ID: B37056 for the duration of the inspection. Instrument calibration was conducted at 1:45 PM Central Time on November 7, 2022:

Calibration Gas Concentration (ppm)	B37056 Reading (ppm)
500	502
2,000	1,996
10,000	10,200

EPA performed a drift check reading following the site tour at 3:50 PM Central Time on November 7, 2022:

Calibration Gas Concentration (ppm)	B37056 Reading (ppm)
500	502

2,000	2,104
10,000	10,700

Calibration Gas Information

Manufacturer	Composition	Lot #	Expiration
Air Systems International	Zero air	304-402520136-1	8/22/24
GASCO	Methane, 500 ppm	304-402518883-1	8/15/26
Calgaz	Methane, 2,000 ppm	1434290	6/1/26
Calgaz	Methane, 1%	1440891	6/1/26